

Claims

1. A package intended for thermal treatment, comprising a fibre-based packaging material treated with a hydrophobic size and comprising on the inside and/or outside of the fibre substrate one or more layers for reduced water penetration, **characterised** in that the fibre substrate has been treated with a hydrophobic size, an aluminium and/or calcium compound and a wet-strength size for increased heat resistance of the packaging material, and in that the weight ratio of hydrophobic size to the aluminium and/or calcium compound is 1:0.1–1:10.
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2. A package as defined in claim 1, **characterised** in that the package is a package treated by heating under pressure, such as an autoclave package.
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3. A package as defined in claim 1 or 2, **characterised** in that the weight ratio of hydrophobic size to aluminium and/or calcium compound is 1:0.1–1:7, preferably 1:0.5–1:5, more advantageously 1:1–1:5, and most advantageously 1:1–1:3.
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4. A package as defined in any of the preceding claims, **characterised** in that hydrophobic size is used in an amount of 0.3–4 kg/t of dry fibre substrate, preferably 0.5–3.0 kg/t of dry fibre substrate, such as 0.5–1.7 kg/t of dry fibre substrate.
- 20 5. A package as defined in any of the preceding claims, **characterised** in that the hydrophobic size is a size consisting of alkenyl succinic acid anhydride (ASA) and/or alkyl ketene dimer (AKD).
- 25 6. A package as defined in any of the preceding claims, **characterised** in that the hydrophobic size is an ASA size.
7. A package as defined in any of the preceding claims, **characterised** in that aluminium and/or calcium compound has been used in an amount of 1.0–20 kg/t of dry fibre substrate, preferably 1.0–10 kg/t of dry fibre substrate 2.0–8 kg/t of dry fibre substrate.
- 30 8. A package as defined in any of the preceding claims, **characterised** in that the aluminium compound is aluminium salt, preferably alum.
9. A package as defined in any of the preceding claims, **characterised** in that wet-strength size has been used in an amount of 0.2–12 kg/t of dry fibre substrate, pref-

erably 0.5–6 kg/t of dry fibre substrate, more advantageously 1–3 kg/t of dry fibre substrate.

10. A package as defined in any of the preceding claims, **characterised** in that the wet-strength size contains polyamido amine epichlorine hydrine resin (PAAE size).

5 11. A package as defined in any of the preceding claims, **characterised** in that the layer for reduced water penetration of the packaging material is a polymer coating.

10 12. A package as defined in any of the preceding claims, **characterised** in that the packaging material comprises in the following order: a polymer heat-sealing layer, a white-pigmented polymer layer, a polymer layer containing black pigment, a treated fibre substrate, one or more polymer oxygen-barrier layers, a binder layer, a grey-pigmented polymer light-shield layer and a polymer heat-seal layer.

13. A package as defined in any of the preceding claims, **characterised** in that a filler has been added to the fibre substrate for increased heat resistance of the package.

15 14. A package as defined in any of the preceding claims, **characterised** in that the fibre substrate is made of wrapping paper or board.

20 15. A packaging material intended for thermally treated packages, such as autoclave packages, comprising a fibre substrate treated with a hydrophobic size and coated at least on one side with a layer for reduced water penetration, **characterised** in that the fibre substrate of the packaging material has been treated in the manner defined in any of claims 1, 3-11 or 13, respectively.

16. A packaging material as defined in claim 15, **characterised** in that the packaging material is the one defined in claims 2, 12 or 14, respectively.

25 17. A method for manufacturing a fibre-based packaging material intended for a thermally treated package, such as an autoclave package, the method comprising treatment of the fibre substrate with a hydrophobic size and coating of at least one side of the fibre substrate with a layer for reduced water penetration, such as a polymer layer, **characterised** in the manufacture of a fibre substrate as defined in any of claims 1–14.

18. A method as defined in claim 17, **characterised** in that the heat resistance of the package is further enhanced by controlling the structure of the fibre substrate by means of refining, wet-pressing, calendering and/or Condebelt drying of the pulp.
- 5 19. A method as defined in claim 17 or 18, **characterised** in that a filler is added to the fibre substrate for increased heat resistance of the package.
- 10 20. Use of a combination of an aluminium and/or calcium compound, a hydrophobic size and a wet-strength size for increased heat resistance of a fibre-based packaging material, such as reduced raw-edge penetration.
- 15 21. Use as defined in claim 20 for increased autoclaving resistance.
22. Use as defined in claim 20 or 21 for increased heat resistance of a fibre-based autoclave packaging material, such as reduced raw-edge penetration.